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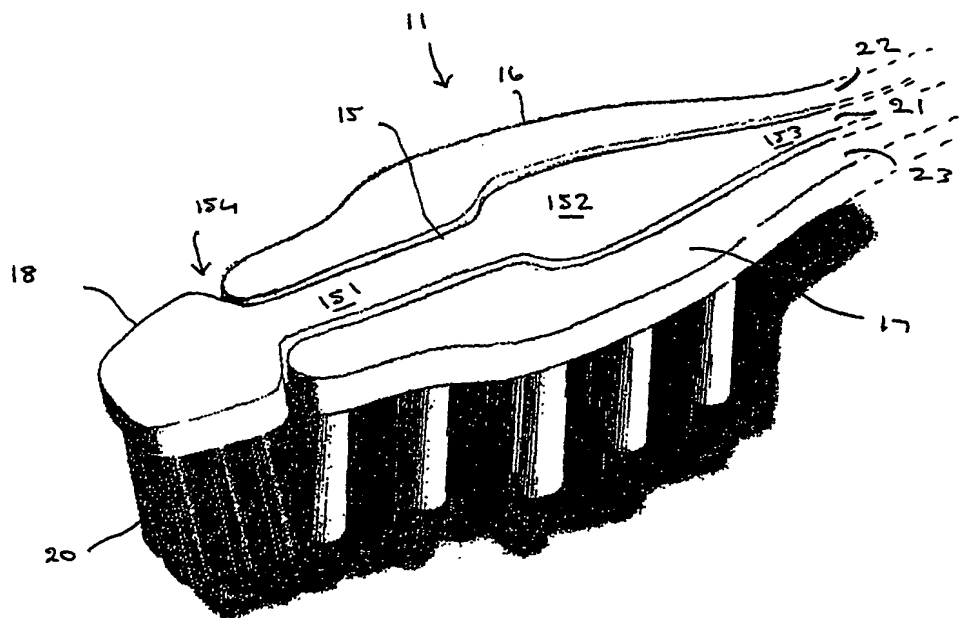
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(54) Title: **TOOTHBRUSH**



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(57) Abstract: A toothbrush head comprising three widthways adjacent sections in which the tip end of the middle section is enlarged into a bristle-carrying tip pad, there is an intermediate bristle-carrying pad between the tip pad and the base end of the head, with narrow link regions between the pads and the intermediate pad and the handle. The sections are connected to the toothbrush handle by flexible necks. The bristle distribution of a multi-section toothbrush head is thereby optimised.

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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 864 676 A (SCHAIPER HEINRICH) 12 September 1989 (1989-09-12) the whole document	1-23
A	FR 2 548 528 A (JOUVIN JEAN LUC) 11 January 1985 (1985-01-11) abstract	1-23
A	BE 897 485 A (PAPAK ISTVAN SOMMERYNS GEORGES) 1 December 1983 (1983-12-01) - the whole document	1-23
A	GB 438 091 A (CHARLES MUNCH) 11 November 1935 (1935-11-11) the whole document	1-23
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 00/74522 A (UNILEVER PLC ; LEVER HINDUSTAN LTD (IN); UNILEVER NV (NL)) 14 December 2000 (2000-12-14) the whole document</p> <p>-----</p>	1-23

INTERNATIONAL SEARCH REPORT

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4864676	A	12-09-1989	DE 3618823 A1 AT 61209 T AU 7485687 A DE 3768438 D1 WO 8707484 A1 EP 0269665 A1 JP 2530471 B2 JP 63503438 T	22-10-1987 15-03-1991 11-01-1988 11-04-1991 17-12-1987 08-06-1988 04-09-1996 15-12-1988
FR 2548528	A	11-01-1985	FR 2548528 A1	11-01-1985
BE 897485	A	01-12-1983	BE 897485 A1	01-12-1983
GB 438091	A	11-11-1935	NONE	
WO 0074522	A	14-12-2000	AU 5808900 A BR 0011102 A CN 1353586 T WO 0074522 A1 EP 1180953 A1 HU 0201361 A2 JP 2003501122 T PL 352054 A1 ZA 200109037 A	28-12-2000 26-02-2002 12-06-2002 14-12-2000 27-02-2002 28-08-2002 14-01-2003 28-07-2003 01-11-2002